

Claims

- 1 1. An electrode guide for an electrode in a spark-erosion machine, comprising:
2 - a holding component and a pressure component,
3 - a grooved recess configured in the holding component or in the pressure component,
4 wherein the pressure component being pre-tensioned against the holding component
5 by means of a pre-tensioning device and the electrode being arranged and guided in
6 a play-free manner between the pressure component and the holding component.
- 1 2. The electrode guide according to Claim 1, wherein a grooved recess is
2 configured in the pressure component and in the holding component.
- 1 3. The electrode guide according to Claim 1, wherein the grooved recess has a V-
2 shaped cross-section.
- 1 4. The electrode guide according to Claim 1, wherein the pre-tensioning device
2 for pressing the pressure component against the holding component is configured as a
3 spring element or as a weight.
- 1 5. The electrode guide according to Claim 1, wherein the pressure force of the
2 pressure component can be adjusted.
- 1 6. The electrode guide according to Claim 1, wherein the electrode guide is
2 arranged in a rotating manner.
- 1 7. The electrode guide according to Claim 1, wherein the electrode is arranged in
2 a rotating manner.
- 1 8. The electrode guide according to Claim 1, wherein the electrode guide also has
2 a pivoting device to pivot the electrode guide.

- 1 9. The electrode guide according to Claim 1, wherein an alignment device is
2 provided to displace the electrode guide parallel to an axis of rotation.
- 1 10. The electrode guide according to Claim 9, wherein the alignment device is
2 arranged in a rotating head.
- 1 11. The electrode guide according to Claim 1, wherein the pressure component has
2 a further recess in its central area facing the electrode.
- 1 12. The electrode guide according to Claim 1, wherein the electrode guide is
2 arranged in the rotating head, which is held in a bridge.
- 1 13. The electrode guide according to Claim 12, wherein the bridge is held by
2 means of play-free spherical guides in a spindle of the spark-erosion machine so that it
3 can be displaced in the direction of the axis.
- 1 14. The electrode guide according to Claim 12, wherein a stop is provided to limit
2 the advance of the bridge.
- 1 15. The electrode guide according to Claim 14, wherein the stop is arranged in an
2 adjustable manner.
- 1 16. The electrode guide according to Claim 10, wherein the rotating head is driven
2 via a driver on the spindle.
- 1 17. The electrode guide according to Claim 1, wherein the electrode guide is made
2 of an Al_2O_3 ceramic or carbide or steel.
- 1 18. The electrode guide according to Claim 1, wherein the electrode guide is
2 arranged axially between the spindle and the workpiece to be machined.

1 19. A method for spark-eroding recesses, in particular microbores, in workpieces,
2 comprising the steps of:

- 3 - providing an electrode guide with a holding component and a pressure component,
4 with a grooved recess being provided in the holding component and/or in the
5 pressure component,
- 6 - arranging and guiding an electrode in a play-free manner between the holding
7 component and the pressure component,
- 8 - arranging the electrode in a rotating manner,
- 9 - pressing the pressure component against the holding component by means of a pre-
10 tensioning device, and
- 11 - advancing only the electrode for spark-erosion purposes and maintaining the
12 electrode guide at a defined distance from the workpiece in the direction of
13 advance.

1 20. The method according to Claim 19, wherein the electrode guide is arranged in
2 a rotating manner.

1 21. The method according to Claim 19, wherein the electrode guide is arranged
2 axially between a spindle and the workpiece.

1 22. The method according to Claim 19, wherein the electrode guide is pivoted by
2 means of a pivoting device so that the electrode guide is positioned obliquely in
3 respect of the axis of rotation.

1 23. The method according to Claim 19, wherein the electrode guide can be
2 displaced parallel to the axis of rotation to produce conical bores, so that the position
3 of entry of the electrode into the workpiece is at the intersection of the axis of rotation
4 and the workpiece or on the large diameter of the bore to be produced.